



Department of Commerce Project Plan

Prepared for:

Dale Lanser, COR
U.S. Department of Commerce
OCIO, Office of Information Systems

Prepared by:

INDUS Corporation
1953 Gallows Road
Vienna, Virginia 22182

DOC Contract Number:	50CMAA900048
Task Order Number:	ISE00032
Task 3: Project Plan	

December 5, 2000

1 PROJECT DESCRIPTION

1.1 Project Background

INDUS Corporation has been tasked by the Department of Commerce (DOC), Office of the Chief Information Officer (OCIO), Office of Information Systems to develop and deploy a secure, distributed, extensible, department-wide Intranet for DOC. Tasks 1 and 2 of the Intranet Infrastructure Development project have been completed and accepted by the government. These tasks included research to determine the best solutions for the department and to provide a design document detailing the Intranet architecture.

1.2 Introduction

This project plan describes the tasks, schedule, and price required to complete the Intranet Infrastructure Development project. This project plan is considered to be Task 3 of the project and describes how the INDUS Team will complete the remaining tasks.

Based on the documentation that was accepted by the government as the deliverables for Tasks 1 and 2 it was determined that additional resources will be required to implement the remaining tasks. Specifically, Task 4, Core Infrastructure Libraries and Directory Setup, requires that Application Programming Interfaces (APIs) for the Web-user Authentication Protocol (WAP), cryptography, Inter Application Communication Protocol (IACP), and the directory services be developed. The architecture document delivered for Task 2 includes the preponderance of the APIs.

Also, additional development is needed for some of the required elements of Task 5 to enhance the directory services to facilitate groups.

1.3 Purpose and Scope

The purpose of this project plan is to set forth estimates of price and effort to complete the Intranet Infrastructure Development project. The main objectives of the project are:

- Set up the Core Infrastructure Libraries and Directory.
- Create Group Server, Directory Application, and Directory Maintenance application.
- Create Personal Homepage and Office/Group Portal application.
- Create News/Broadcast application.
- Create Work Request Tracking application.

- Provide graphic design and application support.

1.4 Assumptions and Constraints

The INDUS Team has based the preparation of this Technical and Cost Proposal on the following general assumptions:

- All work will be reviewed and evaluated by the DOC COR and/or other officially designated Government representative(s) in an agreed amount of time.
- The INDUS Team will develop all deliverables and technical information in accordance with the task order. The COR is responsible for coordinating DOC comments for consolidation, analysis, and integration into final deliverables.
- The government is responsible for acquiring the required hardware and COTS software needed for the Intranet. The contractor staff shall assist with the installation and configuration of the software.
- It is understood that DOC personnel may be tasked to perform some of the technical work on the project. The level and scope of this tasking needs to be defined and agreed to by DOC and the INDUS Team. Although the INDUS Team will provide support to DOC on these tasks, it will be the responsibility of DOC to complete them within the specified schedule.
- This is a fixed-price project. The INDUS team has based its estimates on the current requirements. Should DOC require a change to the scope of work, price and schedule may be affected.

2.0 TECHNICAL APPROACH

The following sections detail the tasks that will be performed by the INDUS Team to complete the project. Tasks 1 and 2 have already been completed and accepted by the government. This project plan comprises Task 3. The remaining tasks (Tasks 4 through 9) are described below.

2.1 Task 4 – Core Infrastructure Libraries and Directory Setup

The INDUS Team has separated Task 4 into four sub-tasks:

- Implementing the hardware/software configuration identified in the architecture document including Directory, WAP and cryptography in Java.
- Implementation of the IACP APIs in Java.
- Implementation of the APIs in PHP and Perl.
- Development of PHP and Perl demonstration applications.

2.1.1 Task 4a – Implement the hardware/software configuration

The purpose of this subtask is to implement the core of the Intranet. This includes acquiring the appropriate hardware and software, which is to be done by the government, and the development of the crypto and Web-user Authentication Protocol (WAP) APIs. Server and client WAP APIs are included. Additionally a sample WAP application will be developed as part of this subtask.

The INDUS Team proposes to first implement a defect tracking system to provide access to the government and contractor staff to all information regarding the implementation of the software.

The government is responsible for acquiring the required hardware and Commercial Off The Shelf (COTS) software required for the Intranet. The contractor staff shall assist with the installation and configuration of the software.

The contractor staff shall work with the government staff to implement LDAP. This includes installation, schema development, document installation, testing and debugging, and installation of the production version. The Directory API shall then be finalized and implemented in Java.

The final cryptography methodologies shall be researched and the appropriate APIs shall be developed and implemented in Java.

The WAP server shall be implemented in Java. The client API shall then be implemented in Java. Finally a demonstration application shall be implemented in Java for the WAP.

2.1.2 Task 4b – Inter-Application Communication Protocol

The INDUS Team will develop specifications for the IACP API, which will be developed and implemented in Java. A Java demonstration application shall then be developed. This subtask includes implementation of both server and client software.

2.1.3 Task 4c – PHP and Perl API Implementation

The INDUS Team will implement the APIs for WAP, Cryptography, and IACP using both PHP and Perl.

2.1.4 Task 4d – PHP and Perl Sample Applications

Under this subtask the following sample applications will be developed to:

- Demonstrate the inter-application communication protocols in Perl and PHP.
- Demonstrate the application libraries in Perl and PHP.
- Demonstrate the WAP PHP and Perl.

The demonstration applications will be simple applications that specifically demonstrate the intended functionality and will be applications designed for developers rather than for end-users. To the extent necessary, the user interface will be incorporated within the portal application. However, the applications will be designed to simply illustrate the functionality required.

2.2 Task 5 – Group Server, Directory Application, and Directory Maintenance Application

Under this task, the following will be developed:

- Group Server Application
- Group Server Client API (Java, PHP and Perl)
- Directory Client API (PHP and Perl)
- Directory Application
- Directory Maintenance Application.

These APIs and applications are central to the operation of some of the other Intranet applications and include database development to store resources related to individuals and groups.

Our team has a proven software development process. From estimating through implementation, the team has successfully deployed complex applications for the Intranet.

Our process includes an initial brainstorming session to identify the forms and handlers and data requirements for the basic functionality of the application. This provides a basis for accurately estimating the time required to complete the application. We use a storyboarding process to initiate the detailed design and assign the tasks related to each module to the appropriate engineer.

As code is developed it is checked into the source repository as it is tested. Inline documentation and check-in messages provide a detailed description of each module. QA procedures are identified at the beginning of this document. As an application approaches beta testing, a code-freeze is implemented. This allows for extensive testing without the introduction of new defects. If modifications are required, independent code reviews and developer justifications are required.

By using a version control system, generally CVS, our developers can easily reproduce prior version and deploy applications in a controlled fashion.

2.3 Task 6 – Personal Homepage and Office/Group Portal Application

Jetspeed is the basis for the DOC portal application. The INDUS Team will:

- Install the development version of Jetspeed
- Configure the development environment
- Develop modules for WAP client authentication, configuration manager client IACP Portlets, security monitor
- Develop a portal configuration server application
- Develop a Group navigator application that will be an IACP server

Our team's extensive experience with object-oriented design and development will greatly assist with this application. The nature of the requirements lend well to an object-oriented approach. This application will permit individuals and groups to customize the interface of the Intranet to their specific needs. This requires that applications be treated as objects that can perform independently, but must provide an interface that can be handled by the portal application.

Development that is required will follow the basic process is described in Task 5. A detailed development and implementation plan will be developed after Task 3 is completed. The INDUS team has proposed a sufficient number of hours of support to complete this task.

2.4 Task 7 – News/Broadcast Application

The INDUS team will implement this application using the tools developed in the previous tasks. Specifically, this application will be designed and developed to provide users and groups with context-sensitive news so they get the information they need without having to search for it.

We have conducted a brainstorming session to identify the basic requirements of this application and are confident that the application will be implemented with the resources proposed. However, the requirements for this application could still change. If this occurs, the schedule and price may be affected.

2.5 Task 8 – Work Request Tracking Application

The INDUS team has specific experience with DOC's work request tracking process and application. We will implement the re-engineered process using the protocols and libraries developed in these tasks.

The development team will select the appropriate development tools and design the application using accepted industry practices. The application will be diagrammed and individual forms reviewed with the government.

A design process will be completed that will detail the individual forms and relationships among them. The design will be presented to COR for approval prior to development. The INDUS team project manager will meet with the government staff to review and modify the design as necessary. Upon acceptance of the design, development of the application will commence.

2.6 Task 9 – Graphic Design and Application Support

Graphic design and application support will be on an on-going basis throughout the life of this project. A graphic artist will develop the basic look-and-feel of the Intranet site. An initial consultation with the government staff to begin the design process will occur when deemed appropriate by the government and the INDUS project manager. Initial designs will be presented to the government. Upon approval, detailed graphics will be developed. All graphics elements will be delivered electronically as the project proceeds.

Application support shall be provided via email and telephone support to OCIO. The Technical Task Lead for each application will be identified as the primary contact point. When problems are encountered, the contact point will log the request and provide support as necessary.

3.0 PROJECT SCHEDULE AND RESOURCE REQUIREMENTS

This section includes details of the phases, activities, tasks, and subtasks necessary to successfully complete the proposed objectives. Also discussed are the task activity and deliverable schedule and project budget.

3.1 Work Breakdown Structure

To produce the project Work Breakdown Structure (WBS), the INDUS Team combined specific tasks and activities from the SOW and standard WBS tasks and activities for software development. Collectively, these activities address all technical task requirements and provide the necessary framework to manage and assess progress throughout the life of the project. The WBS provides an outline of the tasks and subtasks that the INDUS Team has planned to successfully complete the requirements of this task order and execute the technical approach outlined in Section 2. Each activity is provided on a timeline, including start and end dates. The WBS is included as Appendix A of project plan as a separate document.

3.2 Project Level of Effort Estimates

Task Name	Hours	Cost
Task 4a Core (Java)	607	70,014.42
Task 4b IACP (Java)	215	24,799.18
Task 4c IACP (PHP/Perl)	503	58,018.54
Task 4d (PHP/Perl Demo Apps)	183	21,108.14
Task 5 Group Server, Directory App, Directory Maint. App	903	104,156.53
Task 6 Portal App	759	87,546.86
Task 7 News/Broadcast App	295	34,026.78
Task 8 Work Request Tracking	295	34,026.78
Task 9 Graphics / App Support	80	4,248.00
Totals	3,840	437,945.23

APPENDIX “A”

GANTT CHART